

# Business Ideology: A Key Driver for Scaling Up Agroecology and Sustainable Food Systems in Africa

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## Abstract

Agriculture in Africa is perceived by the majority as a subsistence and traditional activity, which has hindered the potential of the agricultural sector to provide opportunities for job creation, poverty reduction, environmental solutions, and economic development. However, this perception is based on stereotypes that have destroyed the transformation or revolution in African agriculture and are entrenched in collective thinking. How can we change this perception that blinds the agricultural sector to its potential and keeps the population in a subsistence mindset? Business ideology proved to be the ideal solution for introducing the new paradigm of entrepreneurial systems thinking to the agricultural sector. This paper explores how business ideology can be used to scale up agroecology and sustainable food systems through mindset change on the African continent. The approach of applying business ideology to scale up agroecology and sustainable food systems is designed to promote business cognition and qualitative changes in innovative technology, scientific research and investment in agricultural services sectors of various economic sectors. Business ideology reveals the powerful cognitive phenomenon that facilitates effective decision-making through metaphor as a systems-thinking tool for collective thinking to harness the agricultural sector to create agricultural enterprises and reduce poverty through agroecology and sustainable food systems. The example of the cow metaphor illustrates the interconnectedness needed to improve decision-making in a critical agricultural environment, where scholars from various disciplines have emphasized the importance of promoting a systems-thinking mindset.

## 1. Introduction

Agroecology and sustainable food systems are at the forefront of debates on reducing malnutrition and food insecurity, increasing agrobiodiversity, improving soil health, and mitigating the effects of climate change. FAO (Food and Agricultural Organization of the United Nations) affirmed that a majority of the sustainable

development goals of the United Nations can be achieved through agroecology and that it can transform agrifood systems (FAO, 2018a). Agroecology is recognized as a pillar of food sovereignty that focuses on local autonomy, local markets, and community action for access and control of land, water, agrobiodiversity, etc., which are of central importance for communities to be able to produce food locally (Rosset and Martínez-Torres, 2012). In Africa, agriculture and food systems are important providers of employment and livelihoods (HLPE, 2020). Can agroecology and sustainable food systems lead to improved food security and human health for vulnerable smallholder households in Africa?

In Africa, the agricultural sector employs more than half of the total workforce (FAO, 2002). Sub-Saharan Africa contains a total population of 626 million people of whom 384 million (i.e. 61 percent) are classified as agricultural actors. The total land area is 2455 million ha, of which 173 million ha are under annual cultivation or permanent crops about one-quarter of the potentially arable area (FAO, 2002). The biggest majority of the workforce across African farms (50 to 85 percent) continues to be done manually through human muscle alone while about 25 and 10 percent of the power for land preparation is derived from animal-powered tools and engine-powered (mainly diesel) machines respectively (FAO & ACT, 2017; Malabo Montpellier Panel, 2018). Referred to as 'subsistence' or 'smallholder' farming, rural producers in most countries on the African continent continue to rely mainly on family labor, for whom the farm is the main source of income. Agricultural productivity in rural areas remains low, with few farmers using improved technologies (Christiaensen and Demery, 2018). African youth do not aspire to work in agriculture, because the sector is characterized by low productivity and is far from the dynamic lifestyles offered by cities (Mueller and Thurlow, 2019).

The stereotypes of subsistence, poor activity, and indigenous activity obscure the opportunities for entrepreneurship and employment that Africa's agricultural sector will offer. This involves a structural change, driven instead by workers moving out of agriculture into informal services, particularly small-scale retail trade (De Vries *et al.*, 2015; McMillan *et al.*, 2017) and motorcycle taxi drivers. Focusing on changing the mindset of those involved in the system is one of the greatest levers for changing the system (Meadows, 1999). However, the development of agroecology and sustainable food systems on the continent needs to begin by addressing these stereotypes through a change of mindset to highlight the potential and opportunities of the agricultural sector for entrepreneurship. By contextualizing the reflection of process and consciousness, agricultural entrepreneurship on the continent must bring the dominant modes of thought into a consistent, integrated pattern of thought and belief in agricultural business. Therefore, opinions, attitudes, and values about the potential of the agricultural sector in Africa will come to light under business ideology as systems thinking and mindsets change.

Business ideology relies on an individual's total ideology with respect to different areas of social life: politics, economics, religion, minority groups, and so forth (Adorno *et al.*, 1950). The business ideology is a dogmatic one, a system of beliefs that includes a wide range of opinions and a consistent attitude to highlight the entrepreneurial spirit of agriculture on the continent. Farmers have traditionally been entrepreneurial, indeed Carter and Rosa (1998), argued that farmers are primarily business owner-managers and that farms can be characterized as businesses. Eikeland and Lie (1999) pointed out that multi-active farmers are entrepreneurial, but as Alsos *et al.* (2003) acknowledge there is still a paucity of knowledge about which factors trigger the start-up of entrepreneurial activities among farmers. Agroecology and sustainable food systems provide an environment for new business activities that are unknown to the majority of the population. The business ideology based on agroecology and sustainable food systems emphasizes systems thinking, which enhances unseen opportunities in the agricultural sector and the potential for agricultural entrepreneurs to participate in ameliorating the effects of resource scarcity (Buechler & Mekala, 2005) and environmental impact (Ventura & Milone, 2000; Barbieri, 2013), increased employment and improvements in rural development (Carter, 1999), and improve opportunities for people to remain in rural areas (Kinsella *et al.*, 2000).

The transformation of stereotypes into ideology therefore reflects the production of specific socio-cultural-historical traditions as psychological tools in the construction of personal understanding. Metaphor conceptual is related to psychological tools that consist of exemplifying and using the result to suggest understandings or thought patterns that construct or constrain people's beliefs and actions (Cameron and Low, 1999a: 88). The development of new systems thinking about agriculture through agroecology and sustainable food systems revealed a particular tool as a conceptual metaphor. This paper focuses on an approach to the application of business ideology for the scaling up of agroecology and sustainable food systems on the African continent, with the creation of a conceptual metaphor of the cow. A cow metaphor reflects the interconnectedness of system components for scaling up agroecology and sustainable food systems through business ideology. The paper is structured as follows: after presenting agroecology and food system practices on the African continent, the next section focuses on the approach of applied business ideology to scale up agroecology and sustainable food systems. The following section describes the metaphor and the reasons for formalizing the metaphor as a tool for systems thinking for agroecology and sustainable food systems based on the business ideology. The last section gives an example of a conceptual metaphor and at the end, there is the conclusion.

## 2. Agroecology and Food System Practices on the African Continent

Agroecology has its origins in indigenous people's food systems that span the globe. Indigenous Peoples' food systems preserve and enrich their ecosystems and are interconnected with language, traditional knowledge, governance, and cultural heritage (IPES-Food, 2022). In many African food and agricultural markets, the extreme levels of global concentration affect the entire food system, from the inputs used for production to the final sale to end consumers (Buthelezi et al., 2023). Local producers are squeezed upstream and downstream since the firms that sell the inputs control prices while large buyers control the market for their outputs (Christiaensen & Martin, 2018). At the retail level, consumers in African cities pay higher food prices than in other developing countries (Nakamura et al., 2016; Allen, 2017), limiting the accessibility of food and driving food insecurity (Sitko et al., 2018; Bell et al., 2020; Ochieng et al., 2019; Baulch et al., 2021; Cedrez et al., 2020). As a result, farmers are squeezed by cartels both as buyers of inputs (for which they pay higher prices) and sellers of agricultural products (for which they are paid lower prices), due to high levels of concentration at input and processing levels (Connor, 2020; Lianos et al., 2022). Agroecology is an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agriculture systems and aims to optimize the sustainable management of natural resources and ecosystem services (FAO, 2018b; HLPE, 2019). In the African continent, the growing threat of climate change (FAO, 2016c; HLPE, 2012; IPCC, 2014) and rampant land degradation (Glatzel et al., 2014; Glover et al., 2012) make the challenges especially daunting particularly as rapid population growth and rising urbanization increase the pressure on agriculture systems to deliver more and better food (World Bank, 2008). The demographic dynamics are expected to result in a spike in the number of young people who will join the ranks of the labor force, particularly in rural areas (ILO, 2015) for food production; as a result, they prefer to relocate from villages to capital cities across the continent in search of jobs.

### 3. Approach to Applying Business Ideology for the Scaling-up of Agroecology and Sustainable Food Systems on the African Continent

The socio-economic realities of African agri-food systems demonstrate the need to apply managerial innovations, using the culminating influence of business ideology as a basis for overcoming the existing destructive environmental processes, by implementing qualitative changes in the innovative-technological, intellectual, human, investment, and agricultural service spheres of various economic sectors. Business ideology reflects the systems thinking that facilitates effective decision-making in the implementation of agroecology and sustainable food systems. Agroecology focuses on the whole food system, connecting production with processing, distribution, and consumption (Gliessman, 2007; Francis et al., 2003). Business structures are a part of the production or economic process that is capable of satisfying certain needs of potential consumers, independently or in cooperation with other systems, through an economic or business system of production of goods or services (Prokhorova, et al., 2022). The application of business ideology begins with the definition of the business system. The business system for scaling up agroecology and sustainable food systems on the African continent needs to emphasize organic production. Organic production is a production system that sustains the health of soils, ecosystems, and people (IFOAM, 2008). Through an agroecological approach, it establishes more direct links between producers and consumers (direct marketing or a local supply chain), so that perishable foods such as fruit, vegetables, and animal products can be consumed within a short time and close to their place of origin. Organic production will reduce the influence of the international cartels that control the continent's conventional agricultural markets. On the other hand, agroecological systems built around organic production enhance the strengths of small farmers as investors (labor, intelligence) and avoid their constraints (expensive external inputs) (HLPE, 2019; IAASTD, 2009a). The business system includes organic production as well as the processing, consumption, and waste management of agricultural products (fig.1). The principles of agroecology and sustainable food systems are embedded in this business system (green zone in Fig. 1). The principles of agroecology and sustainable food systems encompass diversity, synergy, recycling, resilience, co-creating and sharing knowledge, culture, and food traditions, and human and social value (FAO, 2018b). Furthermore, the business ideology for scaling up agroecology and sustainable food systems integrates some parameters as principles. These parameters are:

#### 3.1 Information and Communication Technologies (ICTs)

ICTs provide an ideal means for communicating, and disseminating information and channels for feedback and sharing (FAO, 2014b; World Bank, 2017), has already been used in agriculture to improve resource efficiency, reduce negative externalities, and enhance the flow of environmental goods and services (Chapman and Slaymaker, 2002; World Bank, 2016b). ICTs serve as transformative tools in modernizing agriculture and enhancing communication channels within the food system. For example, mobile applications provide real-time market information to smallholder farmers, enabling them to make informed decisions about crop selection and pricing strategies. Additionally, ICT platforms facilitate direct communication between farmers and consumers, fostering transparency in the food supply chain. Moreover, ICTs contribute to resource efficiency and environmental sustainability by optimizing resource usage and reducing negative environmental impacts.

Precision farming technologies, such as drones and satellite imaging, enable farmers to minimize chemical inputs and monitor natural resources effectively. By incorporating ICTs into agroecological practices, we promote sustainable agricultural methods while enhancing productivity and environmental stewardship.

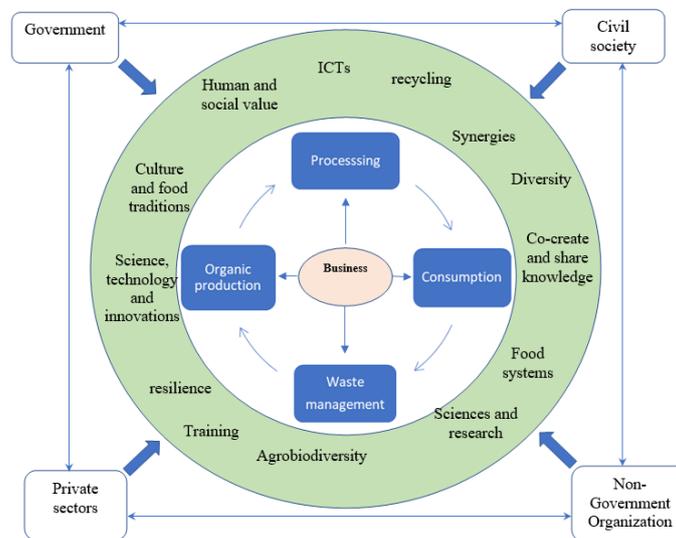
### 3.2 Sciences, Technologies, and Innovations

Due to the complexity of managing different plants and animals on the farm (e.g. crop rotation and inter-cropping) and recycling the waste produced (e.g. composting and use of livestock manures), agroecology is more labor intensive (Parmentier, 2014), and generally involves a higher share of labor-intensive crops, such as fruits and vegetables (Reganold, 2016). In developing countries, this higher labor intensity allows a better use of available family labor which tends to be under-occupied for part of the year (Levard and Apollin, 2013). As a result, the sciences and research provide innovations and technologies tailored to the socio-economic and environmental conditions of each region in order to keep the workforce in each country on the continent. Agroecological farming spreads the need for labor more evenly throughout the year, allowing for full-time employment of farm laborers (IPES-Food, 2016), particularly in developing countries where family labor is underutilized. Through agroecological principles, farmers can implement diverse cropping systems and innovative farming practices that optimize labor usage and increase productivity sustainably. For instance, agroforestry systems and conservation agriculture techniques promote biodiversity, enhance ecosystem services, and build resilience to climate change.

### 3.3 Keys Stakeholders

The business ideology for scaling up agroecology and sustainable food systems is driven by the key stakeholders to sustain the business system. The key stakeholders are the government, the private sector, non-governmental organizations, and civil society. Business Ideology is about changing the way people think and getting communities to share the same vision and goals. Stakeholders will define the framework to guide the community towards the goal of agroecology and sustainable food systems as the continent's leading business. However, following the business ideology, the government should take a number of measures to support business, including policy measures such as land tenure reforms, subsidies for organic farming practices, tax cuts, and business grants. In addition, governments can create an enabling environment for agroecological businesses by streamlining bureaucratic processes and providing technical assistance to farmers transitioning to organic production, simplifying bureaucratic barriers for businesses, and organizing or increasing support for organic farmers and the private sector. The private sector must rely on scientists to develop technologies that are environmentally friendly and affordable for the continent's small farmers. The motivation of human activity is far from being limited to economic interests, and the making of economic decisions is influenced by many other factors: cultural, moral, cognitive, psychological, informational, etc. (Prokhorova, et al., 2022). This highlights the importance of stakeholders such as NGOs and civil society for business ideology applied to agroecology and sustainable food systems.

Figure 1 depicts the approach to applying business ideology to scale up agroecology and sustainable food systems on the African continent.



**Fig. 1** Approach to applying business ideology to scale up agroecology and sustainable food systems

#### 4. Metaphor Conceptual

Metaphors have been recognized to play a crucial role in various cognitive activities such as learning and education (Petrie, 1979; Sticht, 1979); science (Emmet, 1945, pp. 68-95; Hesse, 1974, 1980; Kuhn, 1979; Gerhart and Russell, 1984); religion (Gerhart and Russell, 1984; Soskice, 1985); society and culture (Schön, 1979; Reddy, 1979; Kempton, 1987; Lakoff and Kövecses, 1987; Quinn, 1987); everyday language (Embler, 1966, pp. 27-44; Lakoff and Johnson, 1980). According to Metaphor conceptual theory, a highly influential model for metaphor research, metaphors are seen not only as consciously and creatively used phrases but as a powerful cognitive phenomenon where our everyday use of language both reflects and affects our thinking in ways that often remain subconsciously (Lakoff and Johnson, 1980). Business ideology is a powerful cognitive tool to understand the issue of scaling up agroecology and sustainable food systems in the African context. This can be done through metaphorical conceptualization. Metaphors conceptual are powerful tools for behavioral change (Dweck, 2006; Hauser & Schwarz, 2015; Lakoff & Johnson, 1980; Landau et al., 2009; Thibodeau & Boroditsky, 2011; 2013). Metaphors influence our thought most strongly in areas where direct experiential or perceptual knowledge is limited, as is the case with complex systems. Complex systems, such as agroecology and food systems, often defy direct observation and comprehension due to their intricate nature. The metaphor conceptual to draw the business ideology to scale up agroecology and sustainable food systems reveals the organization's thoughts and shapes interconnecting to raise awareness about theoretical assumptions, challenge established beliefs, and promote agroecology practices. Ideology is a consistent integrated pattern of thoughts and beliefs explaining a human's attitude towards life and his existence in society, and advocating a conduct and action pattern responsive to and commensurate with such thoughts and beliefs (Loewenstein, 1953:52). However, business ideology and metaphor conceptual are both related to cognitive, systems thinking, and beliefs.

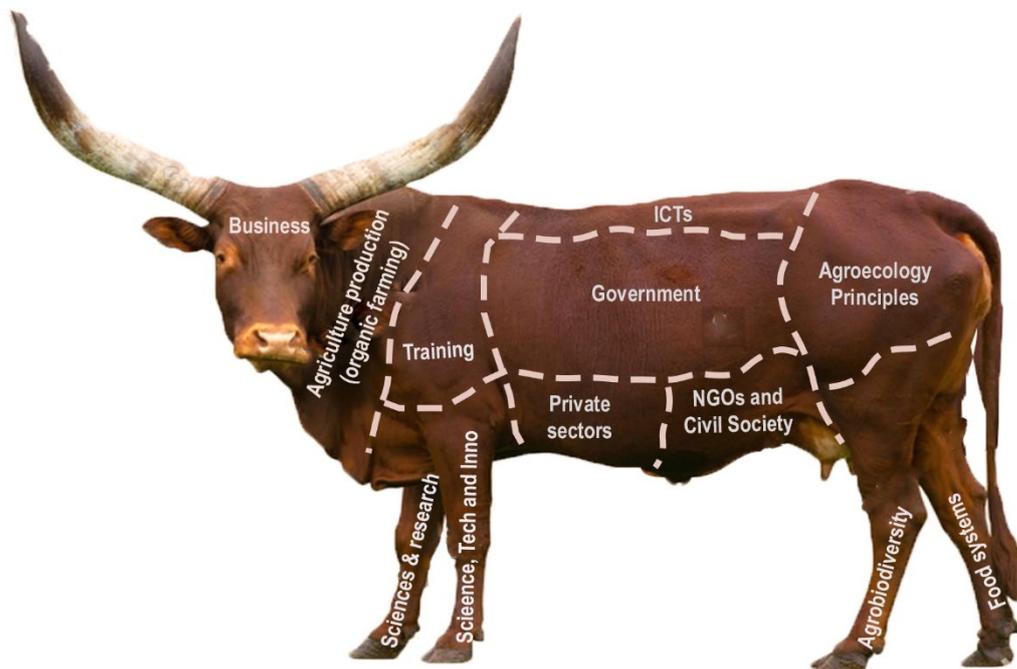
#### 5. Metaphor Conceptual as a System Thinking Tool in Agroecology and Food Systems Based on Business Ideology

The greatest challenges facing the African continent are climate change, poverty, epidemics, and financial meltdowns, which involve enormously complex systems. To facilitate effective decision-making in these critical areas, scholars from diverse fields have emphasized a need to promote a system-thinking mindset among policy experts and the lay public (Checkland, 1972; Davis & Stroh, 2015; Maani & Maharaj, 2004; Richmond, 1993; Rozenblit & Keil, 2002). Incorporating a metaphor as a system-thinking tool offers several advantages in addressing the multifaceted challenges encountered in African agriculture and food systems. Additionally, a metaphor provides a tangible and relatable framework for understanding complex systems. By visualizing these systems through the lens of the metaphor conceptual, stakeholders can grasp the interconnectedness and interdependencies inherent in sustainable food systems more intuitively. The metaphor conceptual is embedded system thinking, which is based on three core components. First, it requires people to move away from reductionist modes of inquiry (explaining a system in terms of the behavior of individual components) and towards holistic modes of thinking (explaining a system in terms of the dynamic interrelationships between constituent elements; e.g., Richmond, 1993). The metaphor encourages a shift from reductionist to holistic modes of thinking, aligning with the principles of systems theory. Rather than analyzing agricultural and food systems solely based on the behavior of individual components, such as crops or livestock, it emphasizes the dynamic interactions and feedback loops between these components. Second, it requires a broader conception of causality because outcomes in systems are determined by a complex set of frequently non-linear, direct, and indirect causes (Capra, 1985). This broader conception of causality acknowledges the complexity and non-linearity of system dynamics, thereby facilitating more comprehensive and effective decision-making processes. And third, it requires an appreciation that systems are in constant, but patterned, flux (Sweeney & Sterman, 2007). Metaphor conceptual provides a cognitive scaffold for understanding these abstract concepts by drawing analogies to familiar phenomena. Consequently, integrating the metaphor conceptual into interventions aimed at promoting systems thinking to enhance stakeholders' ability to analyze, strategize, and innovate within the context of agroecology and food systems. Many scholars have argued that the concept of time, for instance, requires metaphoric thinking – a reliance on our conception of space – because we cannot experience time in a direct, and tangible way (Boroditsky, et al., 2010; Clark, 1973; Traugott, 1978). Using a metaphor, conceptual shows the interconnected parts of agroecology and food systems that work together as a whole of different interdependent elements. We offer theoretical and empirical support for designing cow metaphor-based systems thinking interventions.

#### 6. Example of Metaphor Conceptual: Cow Metaphor

In the context of scaling up agroecology and sustainable food systems in Africa, the metaphor conceptual of a cow's body is a representation of corporate ideology and offers a profound insight into the interconnectedness and interdependence of different components of agricultural development. As each part of the cow's body is essential to its health and function, each component of the business ideology plays a critical role in promoting the growth

and sustainability of agroecological and food systems. By delving deeper into the metaphorical representation of the cow's body, parallels were drawn between the interconnectedness of its parts and key components through the holistic approach necessary for the successful implementation of agroecology and sustainable food systems. The parts of the cow's body thus represent the components of business ideology for scaling up agroecology and sustainable food systems. The functioning of each part is simulated to reflect the role and importance of the business ideology key components (figure 2 and Table 1).



**Fig. 2** Example of cow metaphor conceptual for business ideology to scale up agroecology and sustainable food systems

The conceptual description of the metaphor follows the similarity between the external parts of a cow and the key components of the business ideology for scaling up agroecology and sustainable food systems, as shown in Table 1.

**Table 1** Similarity between external parts of a cow and key components of business ideology

External parts of a cow	Key components of business ideology
Head	Business
Neck	Agriculture production (organic farming/Agroecology)
Shoulder	Training
Back	Information and communication technologies (ICTs)
Barrel	Government
	Private sectors
	NGOs and Civil Society
Rump	Agroecology principles
Front leg right	Sciences & research
Front leg left	Innovations & technologies
Hind leg right	Food systems
Hind leg left	Agrobiodiversity

The choice of the cow metaphor for conceptualizing the scaling-up of agroecology and sustainable food systems in Africa stems from its multifaceted role in agricultural practices, food security efforts, and cultural traditions across the continent. The cow embodies a comprehensive system with several interrelated components that are critical to understanding agroecology and food production. This system provides a holistic approach that characterizes the connections and interrelationships between components that collectively shape the behavior of complex systems. In essence, it recognizes the fact that while problematic systems are comprised of interrelated parts or subsystems, they function as a unit and should ultimately be treated as a whole (Simonovic, 2009). Agroecology and sustainable food systems apply ecological principles to the agricultural value chain to ensure food security and nutrition through economic, social, and environmental respect. This offers opportunities to create new segments of the value chain in production, processing, and nutrition, to create employment in rural areas, to reduce poverty and youth migration to cities, and to address green development. In Africa, the creation of employment opportunities, a new value chain, and markets favorable to science, technology, and innovation in the agricultural sector is unfortunately still a challenge in most countries due to agricultural stereotypes of "traditional and subsistence activities" that limit individual action. Changing mindset is crucial to challenging these stereotypes and promoting innovative approaches that embrace agroecology and sustainable food systems. By promoting a shift towards agroecology and sustainable food systems through psychology, the cow metaphor conceptually reveals the interconnectedness of the key components to implement a business ideology. Business ideology is the systemic thinking that guides all stakeholders in agroecology and the food system towards a corporate working environment where subsistence is banned. Each component of the metaphor conceptual promotes the allocation of resources for the benefit of stakeholders, emphasizing the significant economic potential of agroecology and sustainable food systems. The metaphor conceptual considers the similarity components of all those involved in agroecology and sustainable food systems, as follows:

- Business occupied the *head of a cow*, the source of system thinking. The business ideology was the basis of American development toward (i) government (regulation, consumer of products); (ii) private consumer market; (iii) industry (size within, concentration), and (iv) foreign competition investment (Seider, 1974). The business ideology applied to agroecology and sustainable food systems in Africa is to create 'win-win' outcomes that benefit corporations, smallholders, and government by respecting different spheres of social life (politics, economics, religion, culture, and tradition).
- Organic farming represents "*the neck*" because it serves as the main axis for agricultural development, safeguarding soil fertility and agrobiodiversity while promoting a green economy. Organic farming combines tradition, innovation, and science to benefit the shared environment and promote fair relationships and a good quality of life for all concerned.
- Training (*Shoulder of cow*) focuses on the co-creation of knowledge. It is based on science, technology and innovation through a business relationship. The business relationship helps to describe, analyze, manage, and communicate a farm's value proposition to its customers and all other stakeholders, how a farm can create and deliver that value, and how a farm can capture economic value while maintaining or regenerating natural, social and economic capital beyond its organizational boundaries.
- Information and communication technologies (ICTs) represent the *back* of the cow. ICTs have in fact revolutionized the way in which food is produced, marketed, and consumed (Sodano, 2019).
- Key stakeholders (Government, private sectors, NGOs, and civil society) occupied the barrel of a cow. As the barrel is the center of digestion and distribution of nutrients in a cow's body, the key stakeholders define, regulate, and protect the business system under business ideology.
- Agroecology principles represent *the rump of a cow*. As the rump is an anatomical region that reflects the health and vitality of the animal, agroecological principles serve as performance indicators to guide sustainable farming practices.
- According to the metaphor conceptual, sciences and research represent respectively "*the front leg right*" and "*the hind leg right*", which means the sciences and research move together under business ideology for agroecology and sustainable food systems. Approximately 600 million people fall ill through the consumption of contaminated unsafe food each year, with considerable differences among sub-regions; and with the highest burden observed in Africa (WHO, 2020). Business ideology orients scientists and researchers in an environment where solutions to societal problems are explored through business models that describe how systems create, deliver and capture value in the economic, social and cultural contexts of agricultural development on the African continent.
- Innovations & technologies are assimilated by the "*front leg left*". Agrobiodiversity is assimilated by the "*hind leg left*". Agrobiodiversity is necessary to sustain key ecological functions, such as energy, nutrient, and water cycles, structures, and processes in the agroecosystem (CBD, 2010; Hartmann and Six, 2022; Viglizzo et al., 2004). Innovations and technologies on the African continent must be adapted to different

local conditions (political, social, cultural, economic, or environmental). They must be affordable and accessible, especially for small farmers.

## 7. Conclusion

Agroecology and sustainable food systems represent a new commitment to producing safe and healthy food by protecting agrobiodiversity and soil health, harnessing natural processes, providing holistic and long-term solutions to malnutrition and food sovereignty, and creating entrepreneurial opportunities in the agricultural sector. Hampered by the stereotype of subsistence and poor activity in agriculture on the African continent, the business ideology relies on agroecology and sustainable food systems to highlight the opportunity to change the mindset and activate the business cognition of the population in agriculture. The business ideology aims to stimulate the systems thinking of the African people to harness the potential of the agricultural sector to create competitive agribusinesses, thereby reducing poverty and unemployment, curbing migration to cities and towns in search of work, and ensuring green development. Using a cow metaphor, the paper shows the systemic function of the external parts of a cow's body to illustrate the interaction and interconnectedness of business, organic farming, training, ICTs, agroecological principles, science and research, innovation and technology, food systems, agrobiodiversity, government, private sector, NGOs and civil society to scale up agroecology and sustainable food systems. However, the practice of agroecology and food systems on the African continent highlighted the importance of applying business ideology to effective decision-making in a critical agricultural environment, where scholars from different disciplines have emphasized the importance of promoting a systems-thinking mindset. The application of business ideology demonstrates a strategy for promoting business cognition and qualitative change in innovative technology, scientific research, and investment in agricultural services sectors of various economic sectors across the continent.

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## Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

## Author Contribution

*The authors confirm contribution to the paper as follows: **study conception and design:** Bienvenu Akowedaho Dagoudo., Charles Ssekyewa; and Chrissy Chawanda. **data collection:** Latifou Idrissou; **analysis and interpretation of results:** Bienvenu Akowedaho Dagoudo., Chrissy Chawanda, Latifou Idrissou.; **draft manuscript preparation:** Bienvenu Akowedaho Dagoudo, Chrissy Chawanda. Bright Chisadza. All authors reviewed the results and approved the final version of the manuscript.*

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